ALAMEDA NAVAL AIR STATION
ALAMEDA, CALIFORNIA

Engineering Field Division/Activity: EFAWEST

Major Claimant: CINCPACFLT

Size: 2,634 Acres

Funding to Date: $38,138,000

Estimated Funding to Complete: $103,028,000

Base Mission: Maintains and operates facilities and provides services and material support operations for Naval aviation activities and operating forces

Contaminants: Acetone, chlorinated solvents, cyanide, benzene, ethylbenzene, heavy metals, pesticides/herbicides, methylene chloride, POLs, PCBs, semivolatile solvents, toluene, volatile organic solvents, xylene

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	23	High:	14	Not Evaluated:	1
RCRA Corrective Action:	0	Medium:	9	Response Complete:	0
RCRA UST:	7	Low:	6	Total Sites:	30
Total Sites:	30				

BRAC III

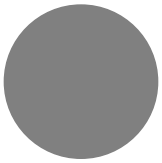
EXECUTIVE SUMMARY

Alameda Naval Air Station (NAS) is located on Alameda Island, which lies at the western end of the city of Alameda in Alameda County, California. Prominent site types include landfills, off-shore areas, plating shops, abandoned fuel storage, a former oil refinery, pest control area and transformer storage area. The Navy has changed its operational processes to prevent further contamination. A Federal Facilities Site Remediation Agreement (FFSRA) was initiated in FY93 with the State of California. Alameda NAS was listed for closure by the 1993 Base Realignment and Closure (BRAC) commission. Closure is scheduled for September 1997. An Environmental Baseline Survey (EBS) has been completed. The BRAC Cleanup Team (BCT) was initiated in FY93. A BRAC Cleanup Plan (BCP) was completed in FY94.

There are no naturally occurring surface streams or ponds on Alameda NAS. Surface water either infiltrates to the groundwater or runs off into storm drains that discharge to San Francisco Bay. Many of these storm drains are at sea level. Presently no groundwater is used for water supply on Alameda Island or in Oakland, but Alameda NAS has been examining groundwater for potability.

Information Repositories are located at the Main Alameda Public Library and at the Alameda NAS Library. A Technical Review Committee (TRC) was formed in FY90 and converted to a Restoration Advisory Board (RAB) in FY93. The RAB has 25 members who meet monthly. Focus groups also meet to discuss RAB charter interests.

At the end of FY95, all of the sites at Alameda NAS were in the study phase. Remedial Investigation/Feasibility Studies (RI/FS) were initiated in FY89. A Record of Decision (ROD) will be signed for the four Operable Units (groups of sites) at Alameda NAS in FY98 and Remedial Design will start in FY99.



100%

Current Status Of Sites

Studies Underway	30
Cleanups Underway	0
Response Complete	0
TOTALS	30

In FY93, an Interim Remedial Action (IRA) at Site 13 removed lead and acid contaminated soils and another IRA removed free floating hydrocarbons. Soil removals have been performed at two other sites to eliminate fuel and lead contaminated soils. To reduce immediate hazards caused by methane gas buildup at Site 2 (West Beach Landfill), a fence was constructed around the landfill perimeter and the methane gas was vented. Soil excavation was completed at Site 15 to delineate the extent of the chemical additive PCB and lead present in the surface soils. With public concurrence, the Navy selected ex-situ treatment by soil washing. Studies for potential early treatability of sediments at the Seaplane Lagoon are being conducted along with studies to determine bio-availability and the lateral and vertical extent of contamination.

Sixty abandoned tanks and surrounding soil were excavated and removed in FY95 from an Underground Storage Tank (UST) site. Plans for removing 44,000 feet of abandoned fuel lines were completed in FY95 at another UST site and preliminary soil and groundwater sampling has been done to facilitate cleanup.

Alameda NAS is one of the few installations using a Geographical Information System (GIS) to manage data and to support on-site decision making. Use of innovative technologies and active partnering will accelerate cleanup and decrease cost. In FY95, Alameda NAS secured a contract with the University of California, Berkeley, for innovative technology as applied to treatability studies.

An innovative field screening technology known as the Site Characterization and Analysis Penetrometer System (SCAPS) was used at Site 13 in FY94. The Navy used SCAPS to investigate the lateral and vertical extent of petroleum crude waste by-products at the old refinery site. Because field data was reviewed immediately, the cleanup decision-making process was expedited.

Presumptive remedies selected for the landfills at Sites 1 and 2 are capping, containment, monitoring and maintenance. Remedies may also include groundwater and leachate extraction and treatment, in-situ biological curtain and innovative biotechnology applications, such as "funnel and gate." Screening and pilot-scale treatability studies at Sites 4 and 5 involve in-situ bivalence to treat hexavalent chromium in soil beneath the plating shops. A treatability study at Site 13 is using enhanced steam stripping technologies which may work to mobilize hydrocarbon liquids and vapors from soil for capture and treatment.

ALAMEDA NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - Alameda NAS is located on Alameda Island, which lies at the western end of the city of Alameda in Alameda County, California. Alameda Island lies along the eastern side of the San Francisco Bay and is separated from the city of Oakland by the Oakland Inner Harbor. To the west and south of Alameda NAS is the San Francisco Bay. There are no naturally occurring surface streams or ponds on Alameda NAS. Surface water either infiltrates to the groundwater or runs off into storm drains that discharge to San Francisco Bay. Many of these storm drains are at sea level. Presently no groundwater is used for water supply on Alameda Island or in Oakland, but Alameda NAS has been examining groundwater for potability.

NATURAL RESOURCES - The endangered California Least Tern breeds and nests on Alameda Island. This is the largest colony of Least Terns in Northern California. In 1984, there were 47 nesting pairs, now there are 128 nesting pairs. This was due to an active management plan that removed the predators. This breakwater island is one of the only night roost areas for California Brown Pelicans in the San Franciso Bay. Many other species of birds nest here and the island is frequented by migratory birds such as Canadian Geese and Western Gulls. Elephant Harbor Seals and other marine animals also use this breakwater island.

RISK - An Ecological Assessment Plan was completed in FY93. A survey was conducted as part of the Ecological Assessment to identify and delineate two wetland areas and to determine potential impacts on the wetlands from Installation Restoration Program (IRP) sites. Phase I of the Ecological Assessment is now completed. Two wetland areas and potentially impacted offshore areas will raise ecological risk above human health risk as the major risk driver. A draft Human Health Risk report has been completed. Human health and drinking water are presently under evaluation.

Under the DOD Relative Risk Ranking System, 12 CERCLA sites and two UST sites at Alameda NAS received a high relative risk ranking. Sites 4 and 22 and USTs 3 and 8 all have contaminants that include petroleum products and volatile organic compounds affecting groundwater. However, the groundwater may be delisted as having no beneficial use. Sites 17 (Seaplane Lagoon) and Site 20 (Oakland Inner Harbor) have contaminants that include semi-volatile organic compounds, the chemical additive PCB, pesticides and metals affecting sediment. Contaminated sediment may impact humans via the ingestion of contaminated shellfish and fish.

The remaining seven high risk sites include a landfill, abandoned fuel storage, former oil refinery, plating shop, pest control area and transformer storage area. Soils in these areas were found to be contaminated with the chemical additive PCB, semi-volatile compounds, pesticides, metals and petroleum products. Human receptors may include current and future on-site workers through inhalation and dermal contact. Two of these sites, Site 2 (West Beach Landfill) and Site 3 (Abandoned Fuel Storage Area) have contaminants that affect soil and sediments. Receptors for these areas also include ecological receptors (flora and fauna) and numerous threatened bird species. Alameda NAS has presented its risk assessment approach to regulators who are reviewing the approach at this time.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - Alameda NAS is still under consideration for placement on the NPL.

LEGAL AGREEMENTS - A Federal Facilities Site Remediation Agreement (FFSRA) was initiated in FY93 with the State of California. The FFSRA will contain a Site Management Plan (SMP) for scheduling of cleanup activities.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in FY90 and met quarterly. The TRC was converted to a Restoration Advisory Board (RAB) in FY93. Some of the original TRC members are in the RAB. The first formal RAB meeting was held in April 1994. The RAB has 25 members from Alameda NAS, the community, the Sierra Club, school district, a public health official and the Alameda Reuse and Redevelopment Authority (ARRA). The RAB meets monthly. Focus groups also meet to discuss charter interests. The RAB is developing a charter to identify and resolve issues and ensure that all stakeholders have ample opportunity to participate in the decision-making process. The RAB has educated the community on cleanup processes and has had presentations on the CERCLA process, early actions, treatability studies and a session on geology. Some RAB members have also participated in RAB workshops.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was completed in FY89 and identified the efforts that would be taken to keep the community informed on the base cleanup issues. This plan is in the process of being updated, with expected completion during FY96.

INFORMATION REPOSITORY - An Administrative Record was established in FY89. Information Repositories are located at the Main Alameda Public Library and at the Alameda NAS Library. A copy of the Administrative Record documents are contained in the local Information Repositories.

BASE REALIGNMENT AND CLOSURE

BRAC - Alameda NAS was placed on the Base Realignment and Closure (BRAC) list in September 1993. Operational closure is scheduled for September 1997.

BRAC CLEANUP TEAM - The BRAC Cleanup Team (BCT) was initiated in FY93 and is committed to the use of innovative technologies and treatability studies. This will accelerate cleanup and reduce future remedial action expenditures.

DOCUMENTS - An EBS identified 214 parcels. Parcels will be recategorized in early FY96. Release of parcels and accelerated cleanup actions are a high priority. A BCP was completed in FY94. The Phase I EBS (Community Environmental Response Facilitation Act of 1992 (CERFA) Determination) designated six parcels as Category 1. The Phase II EBS investigated the remaining 208 parcels. Designations are expected to readjust at least 30% of the Category 7 parcels to Categories 2 and 3.

Environmental Conditions of Property Classification						
1	2	3	4	5	6	7
3 acres	0 acres	0 acres	0 acres	348 acres	380 acres	905 acres

REUSE - The Alameda NAS reuse plan is being coordinated through the following organizations: Alameda Reuse and Redevelopment Authority (ARRA), Alameda Base Reuse Advisory Group (BRAG), the East Bay Conversion and Reinvestment Commission (EBCRC) and the RAB. The City of Alameda has also established a Base Closure Department which supports the ARRA, coordinates with the Navy, the BRAG, as well as other commissions and agencies that have reuse jurisdiction in areas such as air and water quality, transportation planning, seaport and shoreline. The City of Alameda has an Interim Reuse Plan, covering the 10-15 years following base closure. The Long Term reuse Plan is to be final in the spring of 1996. The initial plan will lease structures where similar current functions can be maintained.

FAST TRACK INITIATIVES - Early removal actions will be used to eliminate hot spots and sources to expedite property transfer. Innovative technologies will accelerate cleanup and decrease cost. Active partnering with agencies in conjunction with

Alameda NAS

responsible decision making will accelerate Findings of Suitability to Lease (FOSL), IRP and decrease cost.

Priority planning and streamlined contracting procedures lead to improved team work between the Navy and other agencies. All buildings at the installation were evaluated for asbestos to determine the need for further action or emergency cleanup.

Issues needing regulatory review include approaches for identifying background and ambient conditions, approaches to risk assessments and criteria for reviewing EBS material and FOSLs and for integrating new sites into the IRP. Alameda NAS has learned to make the most of its limited funds to continue cleanup programs. Base closure adds a further dimension in that it requires regulators and the Navy, to evaluate programs not only in terms of protectiveness, but also in terms of the community's reuse plan. Only with adequate funding and staffing will regulatory agencies be able to meet this new challenge creatively and meaningfully.

HISTORICAL

FY83

Sites 1-12 - An Initial Assessment Study (IAS) was completed and identified 12 potentially contaminated sites. Sites 8-12 (currently known as Sites 20, 21, 22, 13 and 14) were found not to pose a threat to human health or the environment. Sites 1-7 (currently known as Sites 2, 1, 17, 3, 15, 16 and 4) were recommended for further investigation because of their potential effect on human health and the food chain, in particular the endangered California Least Tern.

FY85

Sites 1-4 and 15-17 - A Confirmation Study (CS) was completed and found heavy metals and organic compounds in soils and groundwater. Resampling was recommended to confirm the groundwater results. Sites 1-4 were recommended for further investigation. Sites 15-17 were recommended for No Further Action (NFA).

FY87

Sites 1-4 and 5-20 - The EPA Region IX and the California Department of Toxic Substances Control required that these sites be studied in the RI.

FY88

The RI/FS was initiated with the development of RI/FS work plans.
Sites 1 and 2 - The California Regional Water Quality Control Board (RWQCB), San Francisco Bay Region, required that a Solid Waste Assessment Test (SWAT) be conducted at these two sites to determine if hazardous waste was migrating from the landfill into San Francisco Bay.

FY93

Initiated Field Sampling and Data Summary report. Initiated Ecological Assessment.
Sites 1 and 2 - The Draft Final Solid Waste Water Quality Assessment Test Report (Phases 5 and 6) was completed. The report concluded that volatile and semi-volatile organic compounds appear to have migrated from these sites to off-site groundwater**.**

FY94

Completed Phase I of Environmental Baseline Survey.
Site 13 - An IRA to remove lead and acid contaminated soils was completed. The IRA was required by the Department of Toxic Substances and Control (DTSC) and the RWQCB San Francisco. Another IRA to remove free floating petroleum hydrocarbons (pumped out of this site) was completed.

PROGRESS DURING FISCAL YEAR 1995

FY95

Basewide - Plans and specifications for removing 44,000 ft of abandoned fuel lines is complete and preliminary soil and groundwater sampling has been done to facilitate cleanup.
All Sites - Phase I of the Ecological Assessment is completed. Human Health Risk draft report was completed. RI documents for most of the sites have been completed. The Long Term Monitoring (LTM) plan is almost complete. A Data Summary document was completed.
Sites 1-20 - The Final RI Report is underway.
Site 7 - Removal of four USTs and contaminated soil around tanks was completed.
Site 15 - Removal of the chemical additive PCB and lead contaminated soils is underway. The soils have been excavated and the site backfilled with clean soil. Soil washing of the excavated soils will occur in FY96.
Site 5 - A treatability study is underway. Samples are being taken and bench scale testing is being performed for a site demonstration by Lockheed called electrokinetic remediation, to remove metals and other ionic compounds near the old plating shop. Studies for potential early treatability of sediments at the Sea Plane Lagoon are being conducted. Minor characterization has been recommended to determine bioavailability and the lateral and vertical extent of contamination.
Site 16 - Began Engineering Evaluation/Cost Analysis (EE/CA) for removal of petroleum, the chemical additive PCB and lead contaminated soil.
Site 18 - Removed debris from catch basins.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

All Sites - Phase II of the Ecological Assessment will be completed.
Site 5 - The pilot scale demonstration by Lockheed of electrokinetics will be completed.
Sites 16 and 18 - Removal action implementation is planned.
Sites 2, 3, 13 and 17 - Treatability studies are underway through UC Berkeley. These studies will evaluate the feasibility of using innovative technologies including steam enhanced extraction and examine Intrinsic Bioremediation of contaminated sediment.
Steam enhanced extraction has been evaluated (bench-scale) at Site 13.
Site 15 - Removal of lead contaminated soils will be complete, using an Innovative Technology for soil washing.

FY97

Twenty sites will have a final RI Report in FY97.
Sites 7 and 22 - An EE/CA for the removal of petroleum contaminated soils should be completed.
Site 14 - An EE/CA for removal of petroleum products should be completed.
Site 16 - An EE/CA for removal of the chemical additive PCB and lead should be completed.
Site 18 - An EE/CA for removal of soils and debris from catch basins should be completed. In the past, waste was frequently dumped into storm sewers.
Sites 1-20 - The Final RI Report will be completed.
Sites 2, 3, 13 and 17 - Treatability studies will be complete. Potential follow on treatability studies with UC Berkeley will look at enhanced bioremediation for Sites 2, 3 and 13.

ALAMEDA NAS
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	10							
SI	7							
RI/FS					18	3	2	
RD						17	4	2
RA						1	16	6
IRA			1(1)	2(2)	4(4)	1(1)		
RC						1	13	9
Cumulative Response Complete						4%	61%	100%
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC		1						
INV			5	1	1			
CAP				5	1	1		
DES					5	2		
IMP								7
IRA							1(1)	6(6)
RC								7
Cumulative Response Complete								100%